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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/804,960

03/19/2004

Pranab K. Raychaudhuri

87550RLO

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05/04/2006

EXAMINER

GARRETT, DAWN L

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Rochester, NY 14650-2201

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

CM

Office Action Summary	Application No. 10/804,960	Applicant(s) RAYCHAUDHURI ET AL.	
	Examiner Dawn Garrett	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-14,16,17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 7,15 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3-19-2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 5 and 10 are objected to because of the following informalities:
 - a. The second period in claim 5 should be deleted.
 - b. The second occurrence of “wherein the” should be deleted in claim 10.

Appropriate correction is required.

Specification

2. The disclosure is objected to because of the following informalities: It is suggested that the status of the co-pending applications listed in the first paragraph be updated by amendment.

Appropriate correction is required.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 8, 10-14, 16, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lee et al. (US 2003/0234608 A1). Lee et al. discloses organic electroluminescent devices comprising a multi-layered anode (see abstract). Example 1 discloses a device comprising an anode with a Ni layer and an Al layer (see par. 89). The hole injection layer is disposed on top of the bilayer anode (see par. 91) per claims 1 and 8. Organic layers are formed on the hole injection layer (see par. 92-95). CBP and IrPPy3 were deposited as an emissive layer (see par. 93) and an electron transport layer comprised of Alq3 is included (see par. 94) per claim 2. A metal cathode is included (see par. 94 and 95) with regard to claim 4. With regard to claim 3, the device is considered to be a final product with set layer thicknesses and Lee et al. is considered to meet the limitation since no specific emission requirements are set forth. With regard to claims 10 and 11, a Mg and Ag mixture is used as the cathode (see par. 95). With regard to claim 13, the cathode is described as transmissive (see par. 95). Lee et al. discloses a third anode layer between the substrate and the first anode per the "transmission enhancement layer" (see par. 17). With regard to claims 17 and 19, Example 1 has an ITO protective layer over the cathode layer (see par. 95). With regard to claims 5 and 6, Lee et al. discloses the anode is made of a layer of Al or Ag as the first anode and alloys ITO or IZO as the second anode (see par. 40 and 42). Lee et al. appears to disclose all of the required components of the claims. In the alternative that Lee et al. is not sufficient to anticipate the claims, it would have been obvious to one of ordinary skill in the art to have formed a device comprising the required elements, because Lee et al. teaches all of the required features of the device.

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6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as obvious over Lee et al. (US 2003/0234608 A1). Lee et al. fails to set forth the thickness of layers as required by claims 20 and 21, but does teach layers corresponding to “transmission enhancement layer(s)” (see above rejection). It would have been obvious to one of ordinary skill in the art to have optimized the thickness of the third anode layer or the protective layer, because optimization would result in the optimal transmission properties of the device. The experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants’ claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. A prima facie case of obviousness may be rebutted where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as obvious over Lee et al. (US 2003/0234608 A1) in view of Tang (US 4,356,429). Lee et al. fails to specifically teach CuPc for the hole injection structure, but does teach a hole injection layer. Tang teaches in analogous art that porphyrinic compounds such as CuPc are used for hole injection zones of OLEDs (see col. 3, lines 15-56). It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected CuPc as the hole injecting material for the Lee et al. device, because one would expect the material to be similarly useful as a hole injecting material in the Lee et al. device.

Allowable Subject Matter

8. Claims 7, 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art is considered to be Lee et al. (US

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2003/0234608) discussed herein. Lee et al. fails to teach or to render obvious the features of claims 7 and 15 in combination with the other required features of an OLED.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dawn Garrett
Primary Examiner
Art Unit 1774

D.G.
April 28, 2006